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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,825	12/01/2003	Neal E. Ulen	42P17089	3600

8791 7590 06/15/2006

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EXAMINER
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HOFFBERG, ROBERT JOSEPH

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/725,825

Applicant(s)

ULEN ET AL.

Examiner

Robert J. Hoffberg

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-14 and 16-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-14 and 16-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Detailed Action***

***Response to Arguments***

1. Applicant's arguments filed 5/22/06 have been fully considered but they are not persuasive.
2. With respect to applicant's arguments regarding "screw and spring biasing through to the standoff press." The examiner respectfully disagrees. Independent claims 1 and 10 require that "a spring adapted to bias the screw against the heat sink" and independent claim 19 requires "a spring adapted to bias the screw against a device to be retained." Independent Claims 1, 10 and 19 and dependent claims 3, 6-7, 11-12, 14-18 and 20-21 do not have a limitation in the claims that the "screw and spring biasing through the standoff press." Regarding claims 2 and 8-9, Alden (US 6,786,691) teaches in Fig. 1 that the spring #20 biases the screw #15 away from the standoff press #25. Regarding claim 13, teaches in Fig. 1 that Goodwin (US 6,545,879) teaches in Fig. 1 that the spring #46 biases the screw #44 away from the standoff press #66.

***Specification***

3. The disclosure is objected to because of the following informalities:
  - a. Para 0013, lines 5 and 7, Para 0015, line 3: change "the panel screw 50" to "the bottom threaded portion 70 of the panel screw 50".
  - b. Para 0013, line 6: delete ", holding the heat sink 25 in place".
  - c. Para 0013, 11: "bottom threaded portion of the screw 70" to "head of the panel screw 70".

- d. Para 0015, line 2: change "the threaded portion" to "the bottom threaded portion 70".
- e. Para 0016, line 3: change "The bottom threaded portion of the screw head 70" to "The bottom threaded portion 70 of the panel screw 50".
- f. Para 0016, line 4: change "the threaded portion" to "the bottom threaded portion 70".
- g. Para 0017, line 1: change "screws the" to "screws hold the"
- h. Para 0017, lines 4-5: change "The bottom threaded portion of the screw head 70" to "The head of the panel screw 50".

Appropriate correction is required.

### ***Drawings***

4. The drawings are objected to because:

- a. Figs. 3 and 4, the "V"-form of external thread #70 and internal thread #60 on the panel screw #50 and standoff press #40, respectively, and the internal threads on system #75 are not shown. (See Lee et al. (US 6,611,431), Figure 4 and Lee et al. (US 2006/0007659), Figure 4 as alternate examples to depict the "V"-form of the threads).

- b. Fig. 4 label for #40 should be standoff press.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

5. Claims 9, 11, 18 and 21 are objected to because they lack antecedent basis recites the limitation "the threaded end portion" should be "a threaded end portion".
6. Claim 10 is objected to because of the following informalities: "a integrated circuit" should be "an integrated circuit".
7. Claim 17 is objected to because of the following informalities: Delete "for" at the end of the claim.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claims 11-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 11, the disclosure fails to illustrate how the threaded end portion of the screw engages base #30 of the heat sink when attaching to the integrated circuit. Examiner understands that threaded end of the screw engages a system #75 when attaching to the integrated circuit.

10. Claims 19-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 19, the disclosure fails to illustrate how the screw and the spring engage the standoff to attach the device to the base. Examiner understands that standoff press #40 is engaged to the (heat sink) base #30 prior to the screw and spring being threaded through the standoff press because the base is an integral part of the device.

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Alden (US 6,786,691).

With respect to Claim 1, Alden teaches an integrated thermal dissipation device, comprising: a thermal transfer device (Fig. 2, #11); a standoff press (Fig. 1, #25) disposed through a bore (Fig. 2, #16) in base (Fig. 2, base of #11 and #16, Col. 3, lines 13-16) of the thermal transfer device; a screw (Fig. 1, #15) disposed through the bore in the base of the thermal device; a spring (Fig. 1, #20) adapted to bias (Col. 4, lines 60-63) the screw against the thermal transfer device.

With respect to Claim 2, Alden further teaches that the screw and the spring bias through (see Fig. 1) to the standoff press.

With respect to Claim 3, Alden further teaches that the standoff press is press fit (see Fig. 1) to the base of the thermal transfer device.

With respect to Claim 6, Alden further teaches that the panel screw is inserted through the bore (see Fig. 1).

With respect to Claim 7, Alden further teaches that a counter-bore, wherein the counter-bore (Fig. 5, #380) grasps the spring when the thermal transfer device is attached to an integrated circuit (Fig. 2, #9) for reliable thermal performance.

With respect to Claim 8, Alden further teaches that the spring is a tension (see Fig. 1 and Col. 6, lines 57-59) spring disposed around (see Fig. 1) the screw.

With respect to Claim 9, Alden further teaches that a threaded end portion (see Fig. 1) of the screw is adapted inside the standoff.

13. Claims 10, 11, 13 and 19, as best understood by examiner, are rejected under 35 U.S.C. 102(e) as being anticipated by Goodwin (US 6,545,879).

With respect to Claim 10, Goodwin teaches an electronic system, comprising: a circuit board (Fig. 1, #30); an integrated circuit (Fig. 1, #10) disposed on the circuit board; a heat sink (Fig. 1, #40) positioned in thermal contact (Col. 1, lines 31-35) with the integrated circuit; and an integrated connection apparatus adapted to maintain the heat sink in contact with the integrated circuit, the integrated connection apparatus comprising: a standoff press (Fig. 1, #66) disposed through a bore (Fig. 2, #42) in a base (see Fig. 2) of the heat sink; a screw (Fig. 1, #44) disposed through the bore in the base of the heat sink; and a spring (Fig. 1, #46) adapted to bias (Col. 4, lines 37-40) the screw against the heat sink.

With respect to Claim 11, Goodwin further teaches that the screw engages the integrated circuit when a threaded end portion (bottom of Fig. 1, #44) of the screw engages the base of the heat sink (Fig. 1, #80).

With respect to Claim 13, Goodwin further teaches that the screw and spring bias through (see Fig. 1) to the standoff press.

With respect to Claim 19 (as best understood), Goodwin teaches an apparatus comprising: a standoff press (Fig. 1, #66) disposed through a bore (Fig. 1, #44) in a base (Fig. 1, #60); a screw (Fig. 1, #44) disposed through the bore in the base; and a spring (Fig. 1, #46) adapted to bias (see Fig. 4) the screw against a device (Fig. 1, #40



and #60) to be retained, wherein the screw and the spring engage the standoff press to attach (see Fig. 4) the device to the base.

***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 12, 14-18, 20 and 21, as best understood by examiner, are rejected under 35 U.S.C. 103(a) as being unpatentable over Goodwin (US 6,545,879) in view of Alden (US 6,786,691).

With respect to Claim 12, Goodwin teaches the electronic system of claims 10-11 above. Goodwin fails to teach that the standoff press and the spring are hidden in a counter-bore when the screw engages the integrated circuit. Alden teaches an electronic system wherein a standoff press and a spring are hidden see (Fig. 2) in a counter-bore when the screw engages a integrated circuit (Fig. 2, #9).

With respect to Claim 14, 18 and 20-21, Goodwin teaches the electronic system or the apparatus of claims 10 and 19 respectively above. Goodwin fails to teach that a standoff press is press fit to a base of a heat sink and that a screw is adapted inside the standoff press. Alden teaches an electronic system wherein the standoff press is press fit (see Fig. 1) to the base of the heat sink. Alden further teaches that a threaded end portion (see Fig. 1) of the screw is adapted inside the standoff press. With respect to

Claim 16, Goodwin further teaches that the screw is inserted through the bore (see Fig. 1).

With respect to Claim 17, Goodwin teaches the electronic system of claim 10 above. Goodwin fails to teach the counter-bore. Alden teaches an electronic system wherein a counter-bore (see Fig. 2) grasps a spring when a thermal transfer device is attached to an integrated circuit (Fig. 2, #9).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the heat sink base of Goodwin with the heat sink base as taught by Alden for the purpose of providing a recess to enclose the spring and limit the spring tension when the heat sink is installed, providing a recess in the standoff process to protect the screw threads when the heat sink is removed and press fitting the standoff press to the heat sink base as a fastening means, in order to facilitate mounting of the heat sink onto the system.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee et al. (US 6,611,431) and Su (US 6,317,328) teach a heat sink with a counter-bore and a panel screw and a tension spring to hide the spring in the counter-bore when installed and bias the screw away from the counter-bore when removed from the system. Su et al. further teaches that a thread end portion of the screw is adapted inside a base of the heat sink. Davidson (US 6,859,367) teaches the following structure: thermal transfer device, a standoff press, a bore in a base of the thermal transfer device, a screw and a spring.

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hoffberg whose telephone number is (571) 272-2761. The examiner can normally be reached on 8:30 AM - 4:30 PM Mon - Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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RJH *[Signature]*

**MICHAEL DATSKOVSKIY**  
**PRIMARY EXAMINER**

*[Signature]*  
06/09/06